

## UNITED STATES PATENT AND TRADEMARK OFFICE

APPLN. NO.:	10/814,315	CONFIRMATION NO.:	5177
APPLICANT:	Mark A. Boerger	TC/ART UNIT:	2431
FILED:	March 31, 2004	EXAMINER:	Trang T. Doan
TITLE:	SYSTEM AND METHOD FOR COMMUNICATING WITH A KEY VARIABLE LOADER (KVL) USING A STANDARD UNIVERSAL ASYNCHRONOUS RECEIVER TRANSMITTER (UART) PERIPHERAL		

**AMENDMENT ACCOMPANYING  
REQUEST FOR CONTINUED EXAMINATION**

This reply is being filed via electronically

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This communication is responsive to the Office Action mailed September 14, 2010 concerning the above-identified application and is timely filed within the three month shortened statutory period for a response. This reply is provided in response to the Office Action in accordance with 37 CFR § 1.114. Applicant submits the following amendment and remarks and respectfully requests the Examiner to reconsider the rejections made in the Office Action and to allow the claims to issue.

Please amend the above-referenced application as follows:

**Amendments to the Claims** are reflected in the listing of the claims, which begins on page 2 of this paper.

**Remarks** begin on page 5 of this paper.

## Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) An encryption key interface system comprising:
  - a universal asynchronous receiver transmitter (UART) peripheral for communicating with a key variable loader (KVL) through ~~at least one communications link~~ a keyfill line;
  - a driver application associated with the UART peripheral for receiving and transmitting commands to the KVL; and
  - wherein the driver application operates to communicate key command information to the KVL without the use of a timer peripheral and enables the UART peripheral to utilize parity error information to validate communication with the KVL through the keyfill line.
2. (Original) An encryption key interface system as in claim 1, further comprising:
  - a key management application for communication with the driver application for managing the key management information.
3. (Original) An encryption key interface system as in claim 2, further comprising:
  - a general purpose input output (GPIO) peripheral for communicating with the KVL to detect when the KVL is connected with the interface.
4. (Original) An encryption key interface system as in claim 3, further comprising:
  - a KVL detection application for managing operation of the GPIO peripheral.
5. (Original) An encryption key interface system as in claim 3 wherein the UART peripheral and the GPIO peripheral communicate with the KVL over separate data links.

6. (Currently Amended) An encryption key interface incorporated within an electronic device for communicating with a key variable loader (KVL) comprising:

- a universal asynchronous receiver transmitter (UART) peripheral for transmitting and receiving key commands from the KVL through a keyfill line;
- a KVL driver application for communicating command information to the UART peripheral;
- a KVL management application operating with the KVL driver application for interpreting key command data from the KVL; and
- wherein the KVL driver operates without a timer peripheral enabling the UART peripheral to utilize parity error information to validate communication with the KVL through the keyfill line.

7. (Original) An encryption key interface as in claim 6, further comprising:

- a general purpose input output peripheral operating with a KVL detection application for detecting when a KVL is initiating communication with the electronic device.

8. (Original) An encryption key interface as in claim 6, wherein the UART peripheral and GPIO peripheral communicate with the KVL over separate communications links.

9. (Currently Amended) A method for using an encryption key interface for communicating key encryption information from a variable key loader (KVL) to an electronic device comprising the steps of:

detecting a first detection signal at a universal asynchronous receiver transmitter (UART) within the electronic device;

transmitting data from the KVL to the UART;

transmitting a second detection signal from the UART to a KVL application when the UART detects a receive data byte;

transmitting a third detection signal from the UART to the KVL application indicating all data has been received, wherein the third detection signal is idle pattern detect indicating a predetermined number of idle byte times have been received by the UART; and

transmitting a fourth detection signal from the UART to a KVL link layer application for sending subsequent data until all data has been transmitted by the UART, wherein the fourth detection signal is idle pattern detect indicating to continue transmitting another byte in the response message.

10. (Original) A method for using an encryption key interface as in claim 9, wherein the first detection signal is a break detect indicating a unique KVL signature.

11. (Original) A method for using an encryption key interface as in claim 10, wherein the second detection signal is a receive data interrupt command indicating to the UART that data has been transmitted from the KVL.

12. (Canceled)

13. (Canceled)

**REMARKS**Claim Changes

Claims 1 and 6 are amended to recite “the UART peripheral to utilize parity error information to validate communication with the KVL *through the keyfill line*.” Support for the amendment can be found at least in FIG. 2 and the accompanying description on page 2 lines 26-30 of the specification as filed. Thus, no new matter is added.

Claim 9 is amended to incorporate the subject matter of claims 12 and 13; claims 12 and 13 are canceled.

No amendment made is related to the statutory requirements of patentability unless expressly stated herein. No amendment is made for the purpose of narrowing the scope of any claim, unless Applicant had argued herein that such amendment is made to distinguish over a particular reference or combination of references. Any remarks made herein with respect to a given claim or amendment is intended only in the context of that specific claim or amendment, and should not be applied to other claims, amendments, or aspects of Applicant's invention.

Rejection of claims 1-8 under 35 U.S.C. § 103(a) as being unpatentable over US 2002/0018571 (Anderson) in view of US 5,790,885 (Shona)

Applicant has amended the claims to clarify the invention. Applicant therefore respectfully requests reconsideration of the rejection of claims 1-8 under 35 U.S.C. § 103(a) as being unpatentable over Anderson in view of Shona as herein amended.

Applicant respectfully submits that the combination of Anderson and Shona does not teach or suggest all the claim limitations as set forth in independent claims 1 and 6, as amended. For example, independent claims 1 and 6 describe a universal asynchronous receiver transmitter (UART) peripheral for communicating with a key variable loader (KVL) *through a keyfill line* ... a driver application associated with the UART peripheral operating to communicate key command information to the KVL without the use of a timer peripheral and enables the *UART peripheral to utilize parity error information to validate communication with the KVL through the keyfill line*, which are not taught or suggested in the combination of Anderson and Shona.

According to Applicant's claim the UART peripheral communicates with the KVL through a keyfill line and a driver application associated with the UART peripheral enables the

UART peripheral to utilize parity error information to validate communication with the KVL through *the keyfill line*. In contrast, Shona in col. 5, lines 21-38 describes “That is, the IC card 70 generates a parity bit from the data of the character output from the IC card reader/writer 40, and collates the thus generated parity bit with a parity bit which is output from the IC card reader/writer 40. As a result of collation, if both parity bits are matched with each other, the controller 42 judges that the transmission data is not abnormal .... If both parity bits are not matched with each other as a result of collation, the controller 42 judges that the transmission data is abnormal (the parity error is generated), whereby the IC card 70 outputs ‘L’ level during the guard time.” Shona describes using parity information to validate communication between two devices i.e., between the IC card reader/writer and IC card. Shona fails to disclose using parity information to validate communication between the IC card reader/writer and IC card through a keyfill line.

Therefore, Shona fails to teach or suggest “a universal asynchronous receiver transmitter (UART) peripheral for communicating with a key variable loader (KVL) *through a keyfill line*; a driver application associated with the UART peripheral ... enables the UART peripheral to utilize parity error information to validate communication with the KVL *through the keyfill line*,” as recited by Applicant’s independent claim 1, as amended and “a universal asynchronous receiver transmitter (UART) peripheral for transmitting and receiving key commands from the KVL *through a keyfill line*; a KVL driver ... operates without a timer peripheral enabling the UART peripheral to utilize parity error information to validate communication with the KVL *through the keyfill line*,” as recited by Applicant’s independent claim 6, as amended.

Further, since the Office Action dated September 14, 2010 in item 6, page 4 concedes that “Anderson does not disclose wherein the driver application operates to communicate key command information to the KVL without the use of a timer peripheral and enables the UART peripheral to utilize parity error information to validate communication with the KVL,” Anderson also does not teach or suggest enabling the UART peripheral to utilize parity error information to validate communication with the KVL *through the keyfill line* as described by Applicant’s independent claims 1 and 6, as amended.

For the above reasons, Applicant submits that claims 1 and 6, as amended, are not obvious in view of the combination of Anderson and Shona, and therefore that the rejection of

claims 1 and 6 under 35 USC 103(a) should be withdrawn. Applicant requests that claims 1 and 6 now be passed to allowance.

Dependent claims 2-5 depend from, and include all the limitations of independent claim 1. Dependent claims 7-8 depend from, and include all the limitations of independent claim 6. Therefore, Applicant respectfully submits that dependent claims 2-5 and 7-8 are in proper condition for allowance and requests that claims 2-5 and 7-8 may now be passed to allowance.

Rejection of claims 9-13 under 35 U.S.C. § 102(b) as being anticipated US 2002/0018571 (Anderson)

Applicant has amended the claims to clarify the invention. Applicant therefore respectfully requests reconsideration of the rejection of claims 9-13 under 35 U.S.C. § 102(b) as being anticipated by Anderson as herein amended.

Applicant has amended claim 9 to include the features of dependent claims 12 and 13.

Applicant respectfully submits that Anderson does not anticipate each and every claim limitations as set forth in independent claim 9, as amended. For example, independent claim 9 recites “transmitting a third detection signal from the UART to the KVL ... *the third detection signal is idle pattern detect indicating a predetermined number of idle byte times have been received by the UART*; and transmitting a fourth detection signal from the UART to a KVL link layer application ... *fourth detection signal is idle pattern detect indicating to continue transmitting another byte in the response message*,” which are not anticipated either expressly or inherently, in Anderson.

Applicant respectfully disagrees with the statement in item 8, page 8 of the Office Action that “Regarding claim 12, Anderson further discloses wherein the third detection signal is idle pattern detect indicating a predetermined number of idle byte times have been received by the UART.” The Office Action specifically refers to paragraphs [0061], [0070], and [0081] of Anderson as describing Applicant’s such feature.

Applicant presumes that the Office Action is actually referring to FIG. 12 and paragraphs [0081]-[0084] of Anderson. Anderson in FIG. 12 and paragraphs [0081]-[0084] describes a message exchange sequence between a KVL and a target device involving APCO request and response messages, KMM frames, acknowledgement frame, and a transfer complete frame. However, Anderson is silent regarding an indication of idle byte times in the message sequence

between the KVL and the target device. In contrast, Applicant's claim describes a third detection signal is idle pattern detect signal indicating the number of idle byte times received by the UART.

In addition, Applicant respectfully disagrees with the statement in item 8, page 9 of the Office Action that "Regarding claim 13, Anderson further discloses wherein the fourth detection signal is idle pattern detect indicating to continue transmitting another byte in the response message." The Office Action specifically refers to paragraph [0083] of Anderson as describing Applicant's such feature.

Anderson in Fig. 12 at best describes the target device sending an acknowledgement (1225) in response to the KMM frames sent by the KVL. However, Anderson is silent regarding the acknowledgement including an idle pattern indicating the KVL to continue transmitting another byte. In contrast, Applicant's claim describes the UART sending a fourth detection signal including idle pattern detect indicating continuing transmitting another byte in the response message.

Therefore, Anderson does not disclose "transmitting a third detection signal from the UART to the KVL ... *the third detection signal is idle pattern detect indicating a predetermined number of idle byte times have been received by the UART*; and transmitting a fourth detection signal from the UART to a KVL link layer application ... *fourth detection signal is idle pattern detect indicating to continue transmitting another byte in the response message*," as recited by Applicant's independent claim 9, as amended.

Dependent claims 10 and 11 depend from, and include all the limitations of independent claim 9. Dependent claims 12 and 13 are canceled. The rejection of claims 12 and 13 is moot in view of their cancellation. Therefore, Applicant respectfully submits that the dependent claims 10 and 11 are in proper condition for allowance and requests that claims 10 and 11 may now be passed to allowance.



Conclusion

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. Such action is earnestly solicited by the Applicant. Should the Examiner have any questions, comments, or suggestions, the Examiner is invited to contact the Applicant's attorney or agent at the telephone number indicated below.

Please charge any fees that may be due to Deposit Account 502117, Motorola, Inc.

Respectfully submitted,

December 14, 2010  
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